

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-7380

FACILITY NAME: SeaCast, Inc.

TABLE OF CONTENTS

INTRODUCTION	3
BACKGROUND INFORMATION	4
DESCRIPTION OF THE FACILITY	4
PERMIT STATUS.....	6
SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT	6
WASTEWATER CHARACTERIZATION.....	6
SEPA COMPLIANCE	7
PROPOSED PERMIT LIMITATIONS.....	7
EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS.....	9
COMPARISON OF PROPOSED LIMITATIONS WITH THOSE IN THE EXISTING PERMIT ISSUED OCTOBER 27, 2000.....	9
MONITORING REQUIREMENTS	10
OTHER PERMIT CONDITIONS	10
REPORTING AND RECORDKEEPING	10
OPERATIONS AND MAINTENANCE.....	10
PROHIBITED DISCHARGES.....	11
DILUTION PROHIBITED	11
NONROUTINE AND UNANTICIPATED DISCHARGES.....	11
SPILL PLAN.....	11
SLUG DISCHARGE CONTROL PLAN	11
GENERAL CONDITIONS	11
PUBLIC NOTIFICATION OF NONCOMPLIANCE	12
RECOMMENDATION FOR PERMIT ISSUANCE	12
REFERENCES FOR TEXT AND APPENDICES.....	12
Appendices.....	13
APPENDIX A—PUBLIC INVOLVEMENT INFORMATION	13
APPENDIX B—GLOSSARY.....	14

FACILITY NAME: *SeaCast, Inc.*

INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-7380. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to City of Marysville POTW. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the waste water, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A—Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response.

GENERAL INFORMATION	
Applicant	SeaCast, Inc.
Facility Name and Address	SeaCast, Inc. 6130 – 31 st Avenue NE Marysville, WA 98271
Type of Facility	Foundry
Facility Discharge Location	Latitude: 48° 03' 09" N. Longitude: 122° 11' 23" W.
Treatment Plant Receiving Discharge	City of Marysville POTW, WA-002249-7
Contact at Facility	Name: Ben Truscott Telephone #: (360) 653-9388
Responsible Official	Name: Bert G. Robins Title: Vice President Address: 6130 – 31 st Avenue NE Marysville, WA 98271

FACILITY NAME: SeaCast, Inc.

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

The SeaCast, Inc., plant located at Marysville, Washington, is a foundry engaged in the investment casting of steel and stainless steel parts. Investment casting is essentially an industrial scale application of the lost wax casting technique.

A die press machine is used to form wax into the shape of the finished casting. A carnauba-type wax is used for this process. Wax patterns for small parts are placed on a "tree," the "trunk" of which is also made of wax.

The next step is to form a silica binder coating of approximately one-quarter inch thickness on to the surface of the wax pattern. Sand is applied between each coat by means of a rainfall sander. The wax is then melted out of the shell mold by means of an autoclave. A nearby boiler provides steam for the autoclave.

The mold is then heated to approximately 2000 degrees Fahrenheit. The heat not only fuses the shell into a ceramic, but also preheats the mold in order to withstand the sudden addition of molten steel of approximately 2400 degrees Fahrenheit.

Four-each 300 pound and one-each 650 pound furnaces are located on-site. At this time, only one furnace may be operated at a time. Each furnace contains cooling coils. The water in the cooling coils is run through heat exchangers located on ground level outside the building. Cooling tower blowdown is less than fifty gallons per day during the days in which blowdown occurs. At the time of the writing of the original permit, electrical machinery was being installed with the capacity of powering the induction heating for one additional furnace. This will enable the plant to run two furnaces simultaneously.

For some jobs, the wax pattern/mold forming process described above is also performed with a portion of the wax pattern consisting of a water-soluble wax. This technique is typically used for patterns requiring cores, such as pump impellers. The water-soluble wax is paraffin-based, with a sodium bicarbonate filler. This process is used only for pump impellers and other special products which require this method. A dilute hydrochloric acid solution is used to dissolve the water-soluble wax. This is performed in two tanks of approximately 110 gallons capacity each, into which the pattern is submerged. When the remaining water-insoluble portion of the mold is removed, the acid is rinsed off into the sink. The rinse water is used at a rate of approximately five gallons per minute for a maximum of approximately fifteen minutes on those days during which this process is used. The dip tanks are pumped to the sewer through the central rinse sink approximately once every two weeks. Assuming that both of the 110-gallon tanks are discharged on the same day, as is the usual practice, the maximum discharge from the dip tanks would be 220 gallons in a day. The water from the dip tanks is neutralized prior to disposal with soda ash (anhydrous sodium carbonate). The neutralization/discharge from the dip tanks is performed on a batch basis. The water is also filtered to remove the "dissolved" wax. The wax is not actually dissolved, but wax particles are dissociated after the sodium carbonate binder is dissolved. Therefore, the wax is filterable.

FACILITY NAME: *SeaCast, Inc.*

The other major source of waste water (prior to the recent start-up of the Kolene process), besides the core dissolving process, is the pattern cleaner used when the wax patterns are dipped on pattern release. The maximum flow rate from this process is expected to be 300 gallons per day. This waste water is expected to contain small amounts of the pattern release agent and minute amounts of wax, as well as dilute terpene/citric acid-based pattern cleaner. As the nonvirgin wax contains bisphenol, these metallo-aromatic compounds may be released into the water. The amount is expected to be small, however, as the wax is insoluble.

Bisphenol appears to be a name used in the trades for bismuth phenate, essentially a phenol with a bismuth dihydroxide unit in place of the hydrogen normally associated with the OH group normally found on the benzene ring of a phenolic compound. Normally, phenolic compounds are of environmental concern as phenol and some of the substituted phenolic compounds are listed in the total toxic organic (TTO) list and as priority pollutants. However, such mainly chlorinated phenols remain phenolic compounds by virtue of the fact that despite the substitution, the main phenolic ring remains intact. In the case of bisphenol, the OH group does not remain intact, and therefore, the compound is not a true phenolic compound and would be very unlikely to be detected by even the most nonspecific of analytical methods for phenolic compounds (e.g., EPA Method 420.1). Bismuth is a metal of low toxicity. Compounds containing bismuth do not, as a rule, appear to be particularly toxic to humans, unless ingested in quite large quantities (quantities measured in grams per day as opposed to the usual milligrams per day). Due to the probable small amount of discharge of bismuth expected to enter the waste water, and the fact that most of it is expected to be encapsulated in water-insoluble wax, it is the judgment of this permit writer that this compound, in the amounts contemplated to be discharged, is environmentally insignificant.

No limitations (other than flow) have been applied to the boiler blowdown, cooling tower drain/blowdown, or the wax pattern wash as they are not expected to contain environmentally-significant concentrations of pollutants.

A Kolene molten salt (sodium hydroxide) dip system is also located on-site. This system was recently started up and monitoring requirements for the associated waste stream have been placed in the proposed permit. The system is used for removing ceramic mold residual which adheres to castings.

Although this is a steel foundry, very few cast parts are subjected to heat treatment. Of those parts subjected to heat treatment, only a minority (2% to 5%) require water quenching. Half-a-dozen parts might be quenched in a busy heat treat week. The water used for quenching is reused indefinitely.

The Magnaflux penetrant testing line is now seldom used. As monitoring results have indicated concentrations of Total Petroleum Hydrocarbons (TPHs) to be below the detection limit, the limitation and monitoring requirements for total petroleum hydrocarbons, present in the existing permit have not been included in the proposed permit. Most penetrant testing is now performed using the Zyglo system, which was installed several years ago. There is no discharge from the Zyglo system to the sanitary sewer. As noted above, a boiler is maintained on-site, mainly to supply steam to the autoclave used to melt wax out of unfired molds. As the boiler blowdown is expected to be environmentally innocuous, no monitoring requirements have been included.

The Permittee also operates a photographic dark room in the penetrant testing room. This discharge has been added to the permit in order to authorize the discharge. No limitation for silver is proposed as the volume of the discharge is less than 100 gallons per day, and thus falls below the Department's threshold for imposing permitting and monitoring requirements for photographic developers.

FACILITY NAME: SeaCast, Inc.

At the time the initial permit was drafted for this facility in 1999, the potential for metals contamination of water from this foundry appeared to be quite small, as the main wastewater sources contact the wax patterns, as opposed to coming into contact with the metal basis material or metal product. However, the start-up of the Kolene molten dip has provided a more significant potential source for the introduction of metals into the waste stream discharged to the sanitary sewer.

Two machining centers are used in this plant with no apparent discharge to the sanitary sewer.

A pattern-making shop is employed in building wood patterns. There is no apparent discharge of water from this portion of the plant.

It is contemplated that the Permittee will begin discharge of water to the sanitary sewer from pressure washing of castings. The proposed permit contains a requirement to monitor this waste water for a period of three months to determine whether environmentally significant concentrations of metals are being discharged. Based on the results of this monitoring, the Department intends to evaluate whether monitoring requirements and limitations need to be added to the permits for this waste stream.

PERMIT STATUS

The previous permit for this facility was issued on October 27, 2000, with an expiration date of June 30, 2004.

An application for permit renewal was submitted to the Department on March 16, 2004, and accepted by the Department on March 17, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The most recent inspection of the facility occurred on May 17, 2004. The previous inspection of the facility occurred on April 23, 1996.

During the history of the previous permit, the Permittee has remained in compliance based on discharge monitoring reports (DMRs) and other reports submitted to the Department and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge is characterized for the following parameters:

Characterization of Waste Water Based on Discharge Monitoring Reports Submitted for Monitoring Periods January 2003 through March 2004				
Pollutant Parameter	Sample Point	Minimum	Average	Maximum
Flow, process (gpd)	001 ^a	300	300	300
Flow, process (gpd)	002 ^b	8	17	28
pH (standard pH units)	002 ^b	7.0	7.5	8.0
Flow, process (gpd)	003 ^c	0	0	0
TPH (mg/L)	003 ^c	N/A (no discharge)	N/A (no discharge)	N/A (no discharge)
Flow, process (gpd)	004 ^d	52	82	99
Flow, process (gpd)	005 ^e	360	360	360
^a Sample Point 001 is the pattern washing discharge.				
^b Sample Point 002 is the discharge of the acid leach rinse sink, including periodic discharge of the dip tanks. pH measurements shall be taken from the dip tanks themselves rather than the rinse water.				
^c Sample Point 003 is the discharge of the rinse water from the penetrant inspection line.				
^d Sample Point 004 is the discharge of the boiler blowdown from the autoclave steam supply boiler.				
^e Sample Point 005 is the maintenance draining of the furnace cooling heat exchangers.				

SEPA COMPLIANCE

The facility was in existence prior to the proposed reissuance of this permit. Therefore, completion of a SEPA checklist is not required for renewal of this permit.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Waste water must be treated using all known, available and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

State regulations require that limitations set forth in a waste discharge permit be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Waste water must be treated using all known, available and reasonable treatment (AKART) and not interfere with the operation of the POTW.

APPLICABILITY OF CATEGORICAL STANDARDS

40 CFR Part 464 describes the standards applicable to the "Metal Molding and Casting Point Source Category." Subpart C covers the ferrous Casting Subcategory. 40 CFR Part 464.36(e)(2) sets forth standards for investment casting operations pouring less than 3557 tons per day. The limitations given are:

FACILITY NAME: SeaCast, Inc.

Categorical Standards Set Forth in 40 CFR Part 464.36(e)(2)		
Pollutant Parameter	Daily Maximum Lb/kkLb poured	Monthly Average Lb/kkLb poured
Copper	3.6	1.76
Lead	8.7	4.3
Zinc	16.2	6.17
TTO	13.2	4.3
Oil and Grease	330	110

40 CFR Part 464.02 states under the definition for ferrous casting that, "Except for grinding scrubber operations which are covered here, processing operations following the cooling of castings are covered under the electroplating and metal finishing point source categories."

This plant does not employ grinding scrubbers.

It is not clear what is meant by "processing operations" in the above context. 40 CFR Part 433 contains a reference to forty specific processes, which, though not metal finishing in the meaning of 40 CFR Part 433, are nevertheless covered if metal finishing operations are carried out in the plant. Each of these operations does indeed appear to fit under the definition of processing in the sense that all such operations result in a change in the product. Penetrant testing results in no such change (at least on a lasting basis) and is not listed under the forty operations. Therefore, the discharge from the penetrant process does not appear to be subject to 40 CFR Part 433 (metal finishing standards).

The Kolene process started up prior to the drafting of the proposed reissuance permit, is a post-cooling process which results in removal of ceramic material on the product by means of a chemical process, and thus fits under this category. Therefore limitations for chromium, copper, and nickel have been included in the proposed permit, based on the Metal Finishing Standards appearing in 40CFR 433.17 (Pretreatment Standards for New Sources). The Department normally considers Federal Categorical Standards (which are technology-based standards) to be consistent with state AKART requirements.

This Department has not held noncontact cooling water from categorical dischargers to be subject to categorical process water standards. In fact, the Department would consider inclusion of noncontact waters in a compliance sample to constitute an instance of dilution.

Consideration was also given to whether the waste water from the water-soluble wax dissolving and from the mold wax core operations is subject to foundry categorical standards. Specific operations have been named for inclusion in the categorical foundry regulations for non-investment casting operations. The specific operations include casting quench operations, dust collection air scrubbers, grinding air scrubber operations, melting furnace scrubber operations, and mold cooling operations. The inference is therefore drawn that USEPA intended to apply foundry categorical limitations to only those portions of the foundry operations in which water comes into contact with (and is ultimately disposed to the sanitary sewer) the metal products or metaliferous material such as metal dust, etc. Therefore, the prepour operations in this plant do not appear to be subject to categorical regulations. This appears to eliminate water-soluble wax dissolving and mold wax core operations from regulation under categorical standards.

FACILITY NAME: SeaCast, Inc.

The Permittee contemplates the discharge of pressure wash water used to remove mold material adhering to castings. Although this process results from contact between the process water and the cast material, no soaps, alkaline cleaners, or etchants have been added to the pressure wash water. Therefore, it is unclear whether this wastewater falls under “cleaning,” which is one of the forty allied process operations listed in 40 CFR Part 433.10. Therefore, the Department will require testing for chromium, copper, nickel, lead, and zinc for a period of three months and make a determination based on the sampling results. If the monitoring results indicate a potential for exceedance of categorical limitations by any of these metals, the Department will modify the permit to require routine sampling for metals at this sample point.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

Pollutant concentrations in the proposed discharge with technology-based controls in place are not expected to cause problems at the receiving POTW, such as interference, pass-through, or hazardous exposure to POTW workers nor are they expected to result in unacceptable pollutant levels in the POTW’s sludge. Due to the relatively small volume contribution of metal industry-related discharges to the City of Marysville POTW, local discharge limitations have not been developed.

COMPARISON OF PROPOSED LIMITATIONS WITH THOSE IN THE EXISTING PERMIT ISSUED OCTOBER 27, 2000

A comparison of existing and proposed limitations is shown in the table below.

Comparison of Limitations in the Existing Permit With Limitations in the Proposed Permit			
Pollutant Parameter	Sample Point	Limitations in Existing Permit	Limitations in Proposed Permit
		Maximum Daily	Maximum Daily
Flow, process (gpd)	001 ^a	1000	1000
Flow, process (gpd)	002 ^b	500	500
pH (standard pH units)	002 ^c	Within the range of 6.0 to 9.0	Within the range of 6.0 to 9.0
Flow, process (gpd)	003 ^d	100	100
TPH (mg/L)	003 ^d	100	N/A
Flow, process (gpd)	004 ^d	100	100
Flow, process (gpd)	005 ^e	1000	1000
Flow, process (gpd)	006 ^f	N/A	1000
Chromium (T), mg/L	006 ^f	N/A	2.77
Copper (T), mg/L	006 ^f	N/A	3.38
Nickel (T), mg/L	006 ^f	N/A	3.98
pH (standard pH units)	006 ^f	N/A	Within the range of 6.0 to 9.0
Flow, process (gpd)	007 ^g	N/A	2000
Flow, process (gpd)	008 ^h	N/A	100

Comparison of Limitations in the Existing Permit With Limitations in the Proposed Permit			
Pollutant Parameter	Sample Point	Limitations in Existing Permit	Limitations in Proposed Permit
		Maximum Daily	Maximum Daily
^a Sample Point 001 is the pattern washing discharge.			
^b Sample Point 002 is the discharge of the acid leach rinse sink, including periodic discharge of the dip tanks. pH measurements shall be taken from the dip tanks themselves rather than the rinse water.			
^c Sample Point 003 is the discharge of the rinse water from the penetrant inspection line.			
^d Sample Point 004 is the discharge of the boiler blowdown from the autoclave steam supply boiler.			
^e Sample Point 005 is the maintenance draining of the furnace cooling heat exchangers.			
^f Sample Point 006 is the discharge of the Kolene line rinse water.			
^g Sample Point 007 is the discharge of the pressure wash water used to remove mold material adhering to castings.			
^h Sample Point 008 is the discharge of wastewater from the photodeveloper.			

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Conditions S1 and S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges [WAC 173-216-110 and 40 CFR 403.12 (e),(g), and (h)].

OPERATIONS AND MAINTENANCE

The proposed permit contains Condition S5 as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

FACILITY NAME: *SeaCast, Inc.*

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

NONROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate waste water which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for nonroutine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this waste water and opportunities for reuse, Ecology may authorize a discharge to the POTW, require the waste water to be placed through the facilities wastewater treatment process, or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

Under provisions of the previous permit, the Permittee was required to develop a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to maintain and update this plan, as necessary, and submit any such revisions of the spill plan to the Department.

SLUG DISCHARGE CONTROL PLAN

The Department has determined that the Permittee has the potential for a batch discharge or a spill that could adversely effect the POTW; therefore, maintenance of a slug discharge control plan is required [40 CFR 403.8 (f)].

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department.

FACILITY NAME: *SeaCast, Inc.*

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G11 requires the payment of permit fees. Condition G12 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with pretreatment standards or requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for such a period as to result in its expiration on June 30, 2009.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations (<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

FACILITY NAME: *SeaCast, Inc.*

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department published a Public Notice of Draft (PNOD) on May 27, 2004, in the *Everett Herald* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 – 160th Avenue SE
Bellevue, WA 98008

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7025, or by writing to the address listed above.

FACILITY NAME: SeaCast, Inc.

APPENDIX B—GLOSSARY

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in waste water. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect waste water.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)—Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅—Determining the biochemical oxygen demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling—A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling—A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

FACILITY NAME: SeaCast, Inc.

Construction Activity—Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring—Uninterrupted, unless otherwise noted in the permit.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial User—A discharger of waste water to the sanitary sewer which is not sanitary waste water or is not equivalent to sanitary waste water in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic waste water. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference—A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) [including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA], sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)—The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

FACILITY NAME: *SeaCast, Inc.*

Pass-through—A discharge which exits the POTW into waters of the state in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of state water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User—A potential significant industrial user is defined as an industrial user which does not meet the criteria for a significant industrial user, but which discharges waste water meeting one or more of the following criteria:

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day; or
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass-through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)—A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)—

1. All industrial users subject to categorical pretreatment standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; and
2. Any other industrial user that: discharges an average of 25,000 gallons per day or more of process waste water to the POTW (excluding sanitary, noncontact cooling, and boiler blowdown waste water); contributes a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of nondelegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a nonroutine, episodic nature, including but not limited to an accidental spill or a noncustomary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

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State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or waste water that passes through a specific filter.

Total Suspended Solids (TSS)—Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.